

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims**

1. (Currently Amended) A gas sensor-(1) comprising a substrate-(2) of a first charge carrier type, whereon a drain-(3) and a source-(4) of a second charge carrier type are arranged, wherein a channel area-(8) is formed between the drain-(3) and the source-(4), and with a gas-sensitive layer-(10) comprising poles-(11, 12), between which a gas-induced voltage is produced according to the concentration of a gas which is in contact with the layer (10), wherein in order to measure the voltage, the gas-sensitive layer-(10) is capacitatively coupled by one of its poles-(12) to the channel area-(8) over an air gap-(14) and by its other pole-(11) to a 10 counter-electrode-(13) having a reference potential, characterized in that a hydrophobic layer-(19) is arranged on the surface of the gas sensor-(1) between the gas sensitive layer-(10) and the channel area-(8) and/or a sensor electrode-(16), which is electrically connected to a gate electrode-(22) arranged on the channel area-(8).

2. (Currently Amended) A gas sensor-(1) as defined in claim 1, characterized in that it has an electrically conductive guard ring-(18) on its surface, which delimits the channel area-(8) and/or the sensor electrode-(16) leading to the channel area-(8) from the channel area-(8) and/or the sensor electrode-(16) by means of a space, and further 20 characterized in that the hydrophobic layer-(19) is arranged in at least one area of the surface of the gas sensor-(1) located between the guard ring-(18) and the channel area-(8) and/or the sensor electrode-(16).

3. (Currently Amended) A gas sensor-(1) as defined in claim 1 ~~or in~~ claim 2, characterized in that the 25 hydrophobic layer-(19) extends continuously over the channel area-(8) and/or the sensor electrode-(16).

4. (Currently Amended) A gas sensor-(1) as defined in ~~any one of claims 1 through 3~~claim 1, characterized in that the hydrophobic layer-(19) is separated from the channel area-(8) and/or the 30 sensor electrode-(8) [*sic*] and delimits the channel area-(8) and/or the sensor electrode-(16) preferably in a ring- or frame-like manner.

5. (Currently Amended) A gas sensor-(1) as defined in ~~any one of claims 1 through 4~~claim 1, characterized in that the static contact angle of the hydrophobic layer-(19) measured with water 5 and obtained on a planar surface is at least 70°, if necessary at least 90°, especially at least 105° and preferably at least 120°.

6. (Currently Amended) A gas sensor-(1) as defined in ~~any one of claims 1 through 5~~claim 1, characterized in that molecules of the hydrophobic layer-(19) are covalently bound to the surface 10 of an adjacent, preferably semi-conductive or electrically insulating layer of the gas sensor-(1).

7. (Currently Amended) A gas sensor-(1) as defined in ~~any one of claims 1 through 6~~claim 1, characterized in that the hydrophobic layer-(19) contains at least one polymer.

8. (Currently Amended) A gas sensor-(1) as defined in ~~any one of claims 1 through 7~~claim 1, characterized in that the polymer is a fluoride and preferably a perfluoride polymer.

9. (Currently Amended) A gas sensor-(1) as defined in ~~any one of claims 1 through 8~~claim 1, characterized in 20 that the polymer is connected by an intermediate layer-(20) that is preferably in the form of a monolayer to an adjacent, preferably semi-conductive or electrically insulating layer of the gas sensor-(1), and further characterized in that the intermediate layer-(20) has at least one reactive group anchored on the adjacent layer, and that the polymer is coupled preferably by means of a covalent bond to 25 the intermediate layer-(20).

10. (Currently Amended) A gas sensor-(1) as defined in ~~any one of claims 1 through 9~~claim 1, characterized in that the hydrophobic layer-(19) has a surface profiling with projections and depressions.

11. (Currently Amended) A gas sensor-(1) as defined in ~~any one of claims 1 through 10~~claim 1, characterized in that the depressions are in the form of slots or grooves and preferably form a frame or a ring around the channel area-(8) and/or the sensor electrode (16).